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Citizen Science and the History of Vaccination

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Citizen Science and The History of Vaccination

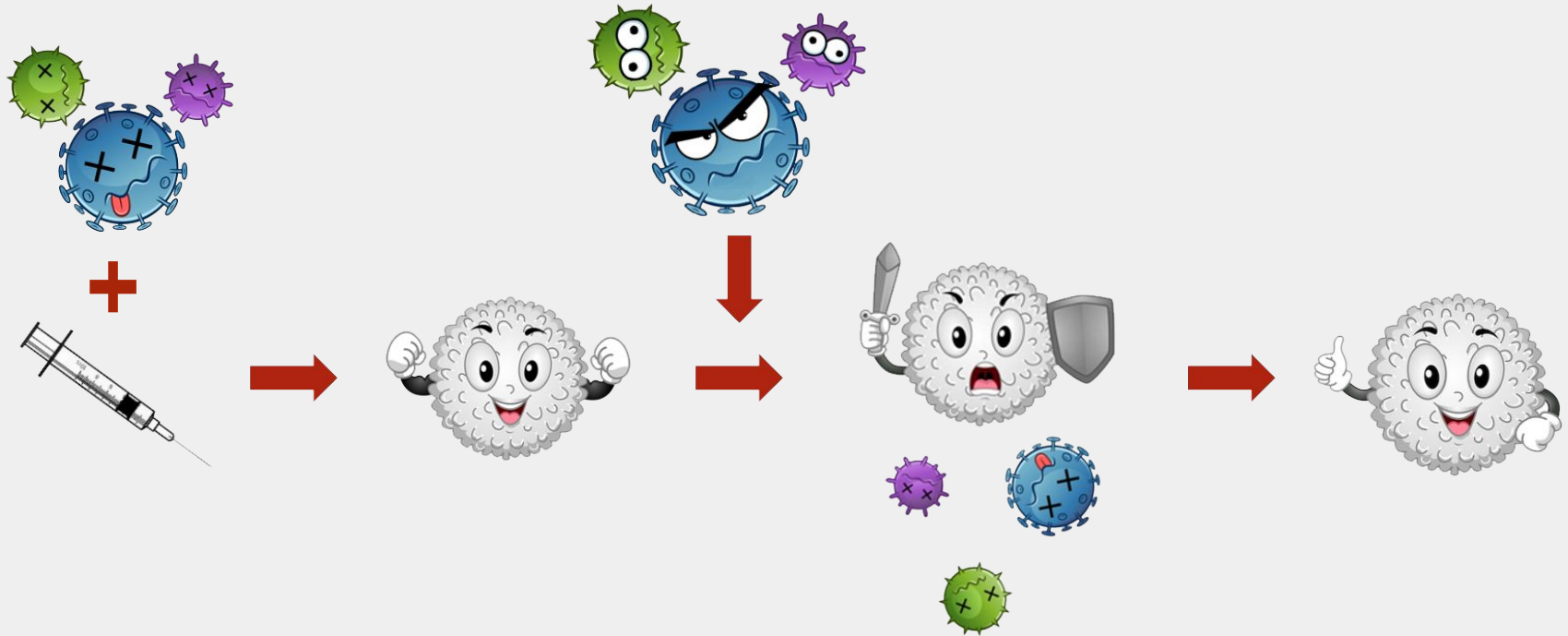


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March 30, 2019

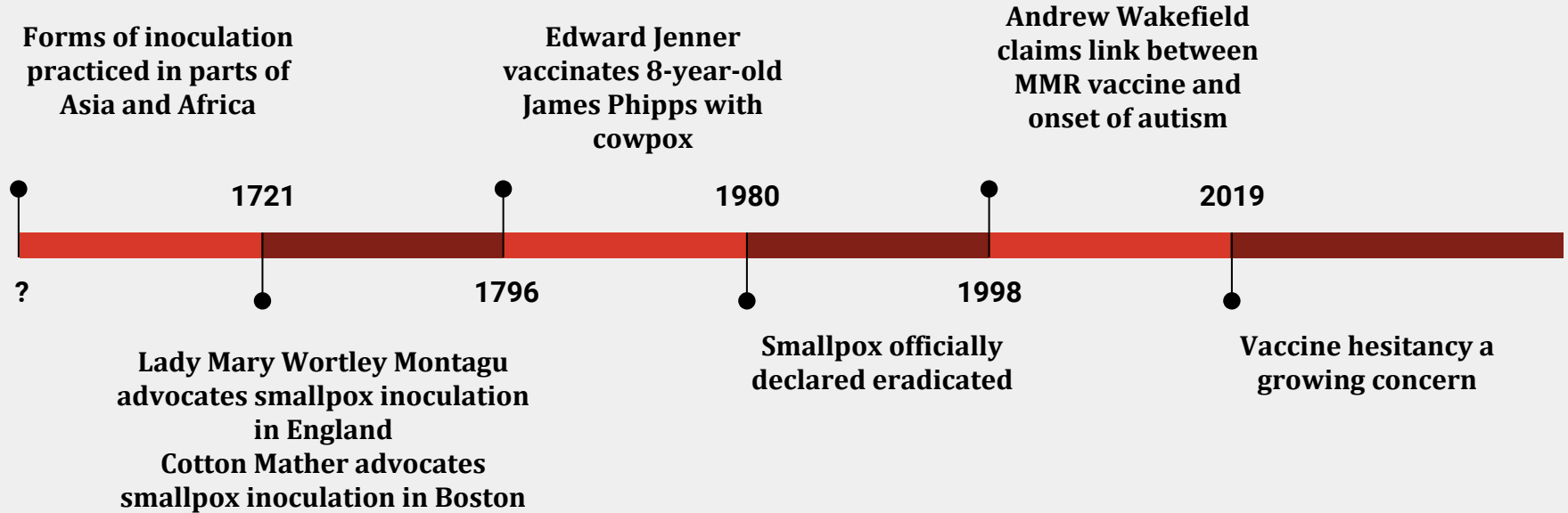
Outline

- Introduction
 - A Brief History of Vaccinations
- Lady Mary Wortley Montagu
- Cotton Mather
- The Value of Citizen Science

Vaccination: A Brief Overview



Back in Time...



Inoculation: Precursor to Vaccination

Inoculation = transfer of
“virulent matter” from infected
person to uninfected person



Smallpox Inoculation; George Kirtland
<https://dcc.dorsetforyou.gov.uk/bankes-archive/stories/smallpox-and-the-bankes/>

Montagu and Mather: Unlikely Participants?

Although it may seem surprising that two non-scientists, the English woman Lady Mary Wortley Montagu and the Puritan minister Cotton Mather, are such prominent figures in the history of vaccination, I aim to demonstrate why it actually makes sense that these two seemingly-unlikely candidates played such significant roles in the advancement of inoculation in the western world.

Lady Mary Wortley Montagu

Lady Mary Wortley Montagu (1689-1762)

- Smallpox survivor
- Elite woman; married to Ambassador to Turkey
- Worked to popularize inoculation in England



Lady Mary Wortley Montagu
Artist: Jonathan Richardson
(1726)

“The best sort of smallpox”

“The smallpox, so fatal and so general amongst us, is here entirely harmless by the invention of engrafting (which is the term they give it). There is a set of old women who make it their business to perform the operation... the old woman comes with a nutshell full of the matter of the best sort of smallpox and asks what veins you please to have opened. She immediately rips open that you offer to her with a large needle (which gives you no more pain than a common scratch) and puts into the vein as much venom as can lie upon the head of her needle...”

-- Lady Montagu, 1717

A Fashionable Woman of Society

“[A]n action taken by a fashionable, aristocratic woman...had ramifications extending well beyond her domestic sphere...because much of the “private” life of women of Montagu’s class was, indeed, public.”

-- Diana Barnes, 2012

A Mother's Influence



Lady Mary Wortley Montagu
with her son, Edward Wortley
Montagu, and attendants
Artist: Jean Baptiste Vanmour
(1717)

Royal Connections

- Correspondence with Princess Caroline of Wales
- Princess Caroline inoculated her own children in April of 1722

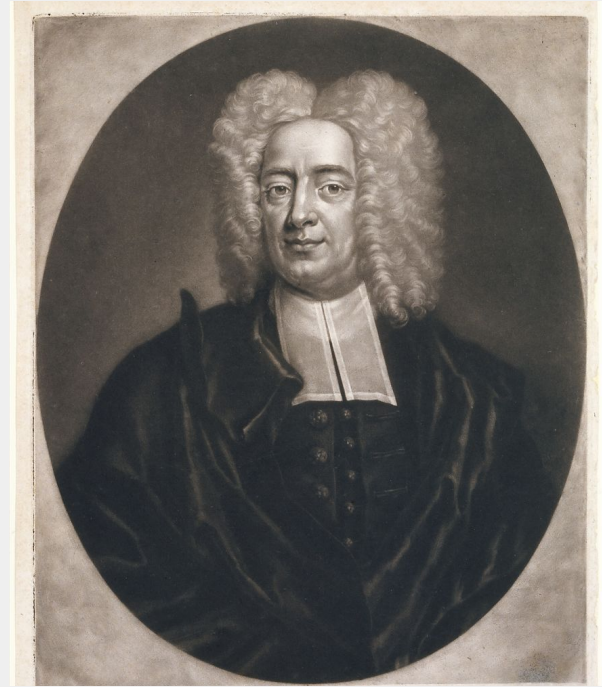


Princess Caroline of Wales with Her Son
Orleans House Gallery

Cotton Mather

Cotton Mather (1663-1728)

- Puritan minister in Boston
- Advocated for smallpox inoculation
- Paradoxical?
 - Common Puritan ideology: disease is the will of God



Cotton Mather
Artist: Peter Pelham
(1728)

A Prominent Public Figure

Religious and medical authority

“[T]he clergyman-physician would mix prayer with folk medicine in hopes of curing the ills of his parishioners.”

-- Matthew Wynn Sivils (41-42)



Smallpox Inoculation
The New York Academy of Medicine Library

Science Benefits Religion

A “scientific means for inducing spiritual conversion” (Hardy 62)

“It has hardly ever been seen, that any after having Suffered it [smallpox] Once, comes to Suffer it a Second time... this observation will be verified in thy Moral Experience; and that the Grosser Sins, which thou has once Repented of, thou wilt Never again fall into them.”

-- Cotton Mather, *The Angel of Bethesda*

Pamphlet Literature

“It is Objected, That you *Presume upon Providence* in this Essay for the Prevention of the *Small Pox*; for *you don't know whether you shall ever have the Small Pox, or no*. I Answer, But what if it be as likely that I shall have it, as it is that my House will take Fire, when my Neighbours an Inch and half off, is in Flames. *Pray, sit still, my Neighbour, your House is not yet on Fire: The Almighty can preserve it.*”

-- Cotton Mather and Dr. Zabdiel Boylston, 1721, “Some Account of what is Said of Innoculating or Transplanting the Small Pox”

The Value of Citizen Science

Summary

- Lady Mary Wortley Montagu
 - Woman of society
 - Mother
 - Connections with Princess Caroline
- Cotton Mather
 - Public Figure
 - Benefits to religion
 - Pamphlet literature

Citizen Science and Public Perception

“Through the study of such historical medical texts... we gain a wider understanding of how our lives are controlled as much by the way science is explained as by how it is implemented.”

-- Matthew Wynn Sivils (55)

Thank You!

Questions?

